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**Investigating factors influencing
user choices to visit either general
practitioners or community
pharmacists in the management
of minor ailments – piloting
a discrete choice experiment**

Dr Dyfrig Hughes
Centre for Economics and Policy in Health, Bangor University

Dr Susan Myles, Miss Mirella Longo & Mrs Cathy Lisles
Health Economics & Policy Research Unit, University of Glamorgan

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Abstract

Background

Recent years have witnessed a multiplicity of efforts to reconfigure first-contact services to better target and meet demand. Efforts to optimise skill-mix within primary care have been particularly pronounced; with an explicit shift in health policy geared towards encouraging increased self-care in the treatment of minor ailments through community pharmacies as opposed to through general practices. Policy efforts to effect this substitution have, to date, been moderately successful. The challenge facing policy makers is to encourage more routine substitution, making the community pharmacy the first 'port of call' for dealing with minor illness. Key to this is gaining a better understanding of the factors that influence users' choices between visiting general practitioners and community pharmacists in their management of minor ailments. This information is required to inform policy makers and practitioners on how best to encourage substitution. The research outlined applied mixed method approaches (focus groups and discrete choice questionnaires) to investigate these issues further.

Study Aim

To elicit preferences influencing user choices to visit general practitioners or community pharmacists to deal with minor ailments.

Objectives

- To identify the key attributes relevant to users' choice to visit general practices or community pharmacies to manage minor ailments.
- To identify the impact of each attribute on the user's choice decision.
- To explore how users trade-off attributes during the choice process.
- To examine relationships between key user characteristics and the choices made.
- To ascertain the feasibility of using the discrete choice experiment (DCE) methods to understand user decision-making processes in choosing between visits to general practices or community pharmacies in the management of minor ailments.

Main achievements

Use of discrete choice methodology to explore this area was demonstrated to be both feasible and successful. Questionnaire respondents yielded a sample of sufficient diversity to investigate the full range of factors and processes expected to influence user decisions regarding whether to visit general practitioners or community pharmacists in the management of minor illnesses. The DCE questionnaire was 'doable' and seemed not to present undue difficulties in terms of time or difficulty in completion. In addition, it appeared to demonstrate acceptable face and internal validity. The vast majority of respondents undertook the necessary trading between the attributes on offer, making seemingly 'rational' choices, which seemed likely to maximise their utility and satisfaction, in line with economic theory.

A number of methodological issues were, however, raised by this research that merit further consideration and research. In particular, important questions concerning how to select the attributes for inclusion within the DCE choice scenarios were raised.

A number of interesting policy implications also emerged from this research. The results of the discrete choice experiments indicated that there is potential to improve the efficiency of policies aiming to increase use of community pharmacies in the management of minor illnesses if policy makers can reinforce the benefits of the immediate and local availability of community pharmacies that can offer brief consultations, often at less or the same cost as consulting a general practitioner to receive a prescription medicine. Users' strong preference to see a GP, coupled with the phased abolition of the prescription charge in Wales may, however, conspire against achieving these policy aims.

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Chapter 1. Introduction

Rapidly escalating health care costs have required health policy makers to reappraise provision of health services; maximising health gain within finite resources. A multiplicity of policy initiatives have been applied aiming to better target and meet demand and reconfigure first contact services.

Efforts to optimise skill mix within primary care have been particularly pronounced with an explicit shift in health policy towards encouraging increased self-care in the treatment of minor ailments through community pharmacies. These initiatives have been broadly supported by the government,^{1,2} general practitioners,^{3,4} community pharmacists,^{5,6,7} pharmaceutical companies^{8,9} and consumers alike.^{8,9,10}

Implicit to these efforts is a substitution hypothesis; aiming to effect shifts from more to less skilled and costly care processes (general practitioner to community pharmacist to self-care) in the management of minor ailments to alleviate pressure on NHS resources.

To date, policy initiatives to encourage substitution in this area have been moderately successful, encouraging many users to substitute. However, they have not completely altered behaviour, with substantial numbers of users continuing to manage minor ailments by visiting general practitioners. Thus, the policy as currently formulated is only partially efficient.

The challenge facing health policy makers is to optimise the efficiency of substitution policy in the face of heterogeneous response; promoting more technically and allocatively efficient use of scarce primary care resources. Key to this is gaining a better understanding of the factors that influence users' choice between visiting general practitioners and community pharmacists in their management of minor ailments.

Despite current extensive use of general practice and community pharmacy in the management of minor ailments, we still do not have a clear picture of either the factors influencing users' preferences between these options or the complex user choice processes involved in making these decisions.

Yet, this is necessary if policy makers are to be able to counteract sub-optimal response to initiatives to encourage increased use of community pharmacies by modifying policy to better match user preferences; removing or minimising potential obstacles to substitution.

Research exploring users' choices between general practitioners and community pharmacists is, therefore, timely and highly relevant.

The discrete choice experiment (DCE) undertaken in this research sought to investigate these issues more fully.

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Objectives

- To identify the key attributes relevant to users' choice to visit general practices or community pharmacies to manage minor ailments.
- To identify the impact of each attribute on the user's choice decision.
- To explore how users trade-off attributes during the choice process.
- To examine relationships between key user characteristics and the choices made.
- To ascertain the feasibility of using DCE methods to understand user decision-making processes in choosing between visits to general practices or community pharmacies in the management of minor ailments.
- To pilot a postal DCE questionnaire.

Organisation of the report

Chapter 2 critically reviews research and policy literature related to the research subject. Chapter 3 summarises the main research questions and details the methodologies adopted concerning: the choice of the study design; sample(s) selection procedures; the development and processes of data collection; and data analyses strategies. Chapter 4 presents the results of the qualitative focus groups and their consequences for design of the discrete choice questionnaire. Chapter 5 presents the results of the pilot postal questionnaire. Chapter 6 presents an overview of the research and discusses the findings. It outlines success and limitations of the methods employed and the implications for policy and further research.

Chapter 2. Literature Review

The aim of this chapter is to critically review research and policy literature to inform the background of the research generally but also to identify the attributes of interest and their levels for discussion within the focus groups and inclusion within the DCE questionnaire. The results of this review are summarised below.

Recent years have witnessed an explicit shift in health policy towards encouraging increased self-care in the treatment of minor ailments; efforts that have been broadly supported by the government,^{1,2} general practitioners,^{3,4} community pharmacists,^{5,6,7} pharmaceutical companies^{8,9} and consumers alike.^{8,9,10} Minor ailments are variously defined. However, they are generally taken to include conditions that require little or no medical intervention.¹¹ Incidence of minor ailments is high, with research studies indicating that 90% of adults suffer from a minor ailment within a two-week period¹² and 94% within the last year.¹³

In the face of increasing demand and waiting times to access general practitioners, the 'appropriateness' of taking-up scarce general practitioner time and resources in the management of minor ailments is increasingly being questioned.^{14,15} Literature estimates the impact on general practice workload associated with dealing with minor ailments vary widely, ranging between 30-70%.^{12,16} It has been estimated that between 100 and 150 million general practice consultations a year are taken up dealing with potentially self-treatable conditions.^{17,18} Further, it has been suggested that a considerable reduction in general practice workload could be achieved (approx. 16 consultations per general practitioner, per day) if users could be encouraged to more actively self-care for minor ailments.¹⁸ These estimates suggest that the resource implications associated with dealing with minor ailments within general practice are considerable. Cost estimates are rare, although an Audit Commission report estimated that the NHS could potentially save £236m a year by encouraging people to self-medicate minor ailments using non-prescription medicines.¹⁹

Successive governments have been concerned to manage demand within primary care; graduating access and optimising available skill-mix combinations. Active involvement of community pharmacists in the management of minor ailments can be traced back to the initial landmark reports that proposed extending community pharmacists' roles^{20,21} and may be regarded as a pioneering demand management strategy that has remained on the policy agenda and gained momentum through time. It is predicated on the assumption that this will help to contain NHS costs, as users substitute seeking advice and medicines from community pharmacies in place of consultations and/or prescription medicines obtained from general practitioners; thus securing savings on the NHS drugs bill and promoting more efficient use of scarce general practitioner time.^{8,9,12-15}

Available evidence (both national and international) indicates that a range of general initiatives to promote substitutions between community pharmacists and general practitioners, including, for example, involvement in repeat prescribing schemes, medication reviews, health promotion interventions and various other initiatives, have been successful.²²⁻²⁵ Until fairly recently, however, evidence regarding whether community pharmacists could successfully substitute for general practitioners in the management of minor ailments has been scarce, contradictory and inconclusive.²⁶

Recent studies, however, indicate that directly supplying medicines to users from community pharmacies, across a defined range of conditions, with medicines supplied free to prescription exempt users, can effect successful substitutions and transfer minor ailment workloads from general practitioners to community pharmacists demonstrating: equivalent user satisfaction; improved user access; reduced general practitioner minor ailment workload; more appropriate use of professionals' skills; with no significant increases in drug costs; and people no more likely to re-consult, having visited a community pharmacist, rather than a general practitioner in the management of their minor ailment episode.^{12,15,27,28,29-31} Consequently, there are now more than 20 similar schemes in operation throughout the UK.^{11,32,33}

These research efforts suggest that encouraging substitution between general practitioners and community pharmacists in the management of minor ailments is consonant with stated policy objectives to encourage enhanced, graduated access to first contact services and promote more technically and allocatively efficient use of primary care resources. However, two other important findings emerge from these studies. Firstly, while policy initiatives to encourage substitution in this area have been moderately successful, encouraging many users to substitute, they have not completely altered behaviour, with substantial numbers of users continuing to manage minor ailments by visiting general practitioners. Thus, the policy as currently formulated is only partially efficient. Secondly, despite current extensive use of general practice and community pharmacy in the management of minor ailments, we still do not have a clear picture of either the factors influencing users' preferences between these options or the complex user choice processes involved in making these decisions.

The challenge for health policy makers is to optimise the efficiency of substitution policy in the face of heterogeneous response. There is little that policy makers can do to change the socio-demographic and socioeconomic characteristics of users that influence these choices. They can, however, counteract sub-optimal response by modifying policy to better match user preferences; removing or minimising potential obstacles to substitution by making efforts to more fully understand users' choices and the factors influencing them.

Despite their commonness, self-care practices generally and for minor ailments specifically, are reported to be relatively under-researched.^{34,35} There is still much to learn about what influences user choices to manage minor ailment episodes in different ways. Interdisciplinary, multi-level frameworks, utilising a range of alternate theoretical and methodological approaches are required to better understand these choices.³⁶⁻³⁸ To understand individual action and choices, one must understand social context and the roles of habit, culture and institutions.⁴⁰⁻⁴³ Broader socio-economic theories are required to investigate the multidimensional factors underpinning self-care behaviour generally and user responses to minor ailments specifically; exploring the economic, infrastructural and cultural-cognitive contexts of user choice.⁴⁴⁻⁴⁸

Key gaps in the current evidence base currently exist. It is not enough to simply accept that, because substitution between general practitioners and community pharmacists in the management of minor ailments appears intuitively obvious, it should be promoted; tempting as it may be given that it coincides with prevailing

policy and professional aspirations. As ever, 'the devil is in the detail'. In an increasingly evidence-based world, it is incumbent upon policy analysts to explore the details and investigate the implications to all concerned. Eliciting user preferences and understanding the factors influencing user choices is crucial in this. It is clear that general practitioners and community pharmacists are not one-for-one, perfect substitutes. Assuming them to be equal negates the potential importance of the varied professional and personal attributes that differ between them.

Indeed, available literature suggests that there are a multiplicity of factors (alongside the demographic and socio-economic characteristics of the individual users themselves) that potentially impact decisions regarding if and when to use general practice or community pharmacy services, for example: convenience factors^{14,49-51}; information, reassurance and anxiety⁵²⁻⁵⁴; altruistic concerns to alleviate pressure on stretched services^{14,50,55,56}; previous experience and the ability to self-care^{14,50,55,56}; specific features of professionals e.g. lay beliefs concerning professional boundaries⁵⁰; organisational features of services e.g. privacy concerns, availability of to provide advice^{12,50}; material concerns e.g. the affordability of medicines^{12,14}; and medicine related concerns e.g. relative efficacy of prescription and non-prescription medicines, concerns over inappropriate and/or over-utilisation of medicines.⁵⁰ It is necessary to consider all potential sources of (dis)utility relevant to individuals' care choices, exploring the relevance and importance of less tangible, yet potentially important, influences on user choices and decision making.

This is important as existing survey evidence investigating user choice between consulting with either general practitioners or community pharmacists in response to a minor illness has yielded contradictory results. A number of studies suggest that when people do seek care, generally they prefer to consult with a doctor rather than any other health professional.^{12,57,58} Yet, other research indicates people frequently identify the pharmacist as a good source of advice⁵⁰: 86% in one large survey, with two-thirds noting that they believe that pharmacists should be consulted more frequently to avoid consulting a doctor.⁵⁹ Interestingly though, the same survey highlighted that user views were not borne out in their actions, with over half reporting that they obtain most of their health advice from a doctor. Indeed, evidence suggests that people are ten times more likely to consult with a doctor or dentist to deal with a minor ailment than a pharmacist, whose advice was only sought in 1% of cases.⁵⁹

Thus, future research in this area must take a more detailed look at user preferences and cast the appraisal net wider: identifying all potentially relevant attributes important to users in their choices over care processes; the relative weights they attach to them; potential trade-offs that exist between them; and their influence on decision making. Until this research is conducted we will continue to have no clear idea of the full range of factors that affect users decisions to visit general practices or community pharmacists in the management of minor ailments and, therefore, how best to optimise substitution and skill mix changes required to effect broader demand management and graduated access policy agendas that seek to enhance both technical and allocative efficiency in the provision of primary care services to deal with minor ailments.

The discrete choice experiment (DCE) proposed in this research will aim to investigate these issues more fully. DCEs are a tool increasingly being used by

health economists and others to elicit user preferences for different forms of health care delivery.⁶⁰ The use of DCEs to assess the delivery of care offered by alternate health professionals is not new and has recently been successfully applied to study patient preferences for junior doctors versus specialist nurses and to explore a wider role for nurses in the treatment of minor illness.^{58,61}

Research investigating the key factors impacting users' choice decisions in this area, applying discrete choice approaches, could potentially yield much needed insight regarding how best to tailor and target future policy initiatives in this increasingly important and pertinent health policy area. This information is urgently required to allow users, general practitioners, community pharmacists, health commissioners and health policy makers to make more fully informed choices about the appropriate provision of skills to manage minor ailments within primary care.

Chapter 3. Design and methodology

The aim of this chapter is to outline the methods applied within the research presented in this report. It begins by outlining the setting for the study and study design. Issues related to the specific methods employed and sample selection procedures are then outlined. Next, the development, piloting and conduct of the data collection instruments are summarised. Finally, the data analyses methods are described.

Study setting

The setting for this research was in Wales.

The focus groups were conducted within the Cardiff area and the postal questionnaire distributed across Wales.

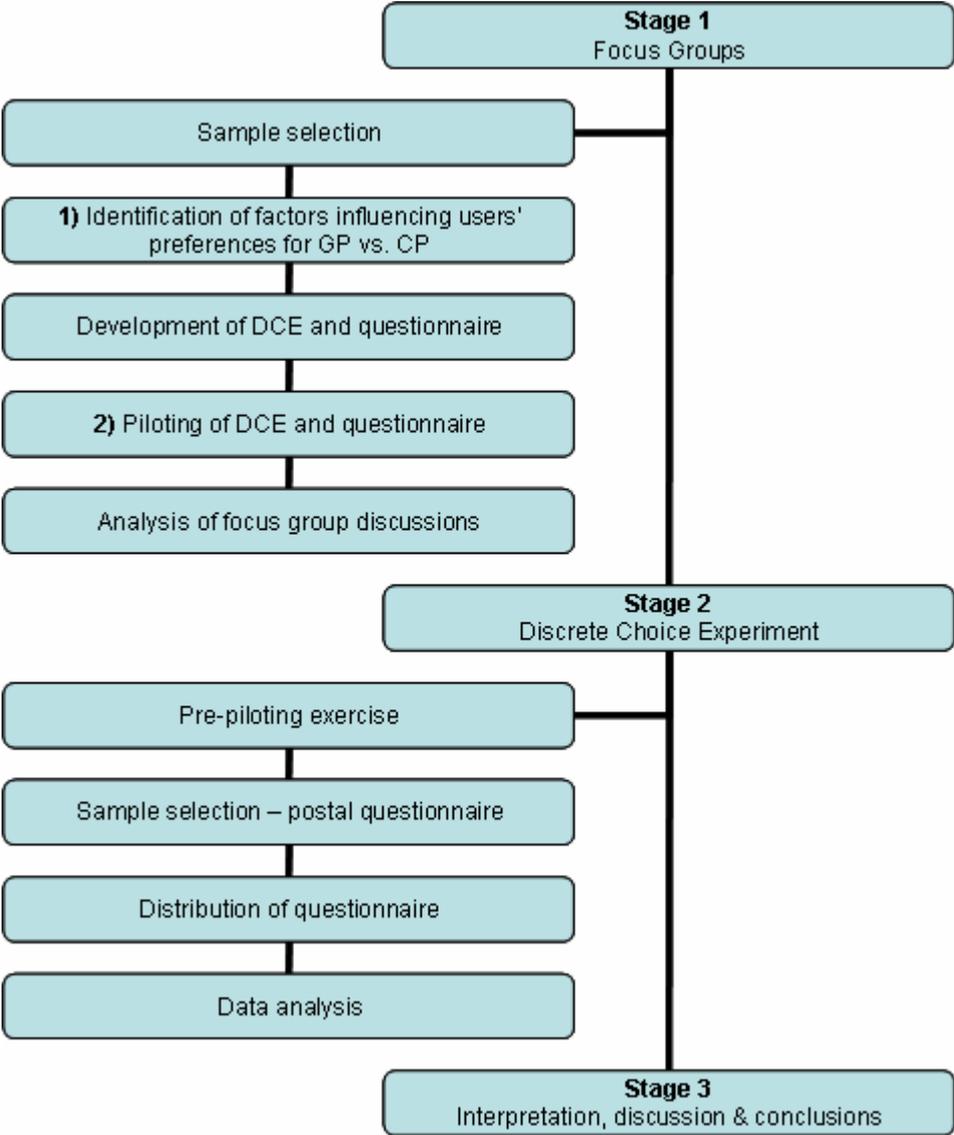
Minor ailment conditions

This study aimed to investigate user preferences in selecting between general practitioners and community pharmacists in the management of minor ailment conditions. Rather than focusing on specific minor ailments, users were asked in the research to consider what factors would influence their choices generally in their decision to visit either general practices or community pharmacies. This was believed to best reflect usual practice and the actual decision making context routinely faced by users. Further, it was considered to be the most pertinent scenario for policy makers seeking to understand user choices in this area i.e. considering user choices between general practices and community pharmacies in the management of undifferentiated minor ailments.

Study design

A two-stage, mixed methods approach was adopted, utilising both qualitative and quantitative methodology. Focus group methods were used to assist in the design of research instruments, followed by a discrete choice experiment conducted via a postal questionnaire. Key methodological stages in the research are summarised in figure 3.1.

Figure 3.1 Key methodological stages in the project



Stage 1: Focus Groups

The key aim of this project was to develop a discrete choice experiment to explore user preferences in selecting between general practitioners and community pharmacists in the management of minor ailments. The author was not, however, aware of any existing DCE instruments to explore these issues. Thus, the role of the focus groups was twofold; to identify attributes relevant to and influencing users' preferences to visit general practitioners or community pharmacists and to assist in the design of a discrete choice experiment that could be undertaken via a postal questionnaire.

The first objective of this research project was to identify the key attributes (and their levels) relevant to users' choices to visit general practices or community pharmacies to manage minor ailments. Focus group methods were pursued given their ability to explore beliefs about health and disease. Their advantage is that they make use of group dynamics to stimulate discussion. They are particularly useful at the exploratory stage of a study to gain insights into respondents' attitudes, feelings and experiences, thus pursuing topics in greater depth. Focus groups are also very useful when developing new research instruments, enabling the researcher to trial alternate content, structures and layouts and gain immediate feedback. For these reasons, focus groups were employed to develop the pilot DCE questionnaire.^{74-79 & 84-86}

Sample selection – focus groups

The aim of the research was to develop a discrete choice experiment that could be distributed via postal questionnaire to a representative sample of adults across Wales. This necessitated recruitment of a sample of users exhibiting a range of socio-demographic and socio-economic characteristics to participate in the focus groups. This was obtained through stratified sampling techniques with participants recruited from among university staff; older people (recruited from Cardiff Age Concern); university students; and community pharmacy users.

Two rounds of four focus groups were conducted. The first aimed to explore factors influencing users' preferences and choices to visit either general practices or community pharmacies in the management of minor illnesses. The second focused on piloting various forms of the discrete choice experiment and other questions to be included in the postal questionnaire and associated invitation and information materials.

An experienced facilitator ran the focus groups which were tape-recorded and participants guaranteed anonymity.

The focus groups respondents were sent an invitation letter and participant information leaflet, outlining the key aims and objectives of the research. Focus group attendees were paid a £30 participation fee and travel expenses in recognition of their time and effort.

First round of focus groups

Prior to the beginning of the first focus group discussions, participants were asked to write down a few key words/phrases about what influences their decision to visit either a general practitioner or community pharmacist to deal with minor illnesses (See Appendix 1). These were then used by the focus group facilitator to direct the initial discussions.

Next, a topic guide (developed from the literature) was used to probe and direct discussion regarding attributes potentially influencing choices (See Appendix 1). Participants were encouraged to raise, think through and discuss potential attributes, considering their importance and combination and to identify any missing attributes and to consider relevant levels of each for inclusion in the postal questionnaire.

The topic guide was developed iteratively, incorporating feedback from each focus group. This enabled the facilitator to probe further about aspects of minor illness management routinely identified as important and to explore relevant levels associated with various attributes e.g. when seen (same day/next day or immediately/not immediately) length of consultation (3 minutes/7 minutes or 5 minutes/10 minutes) and cost levels (£0/£4 or £2/£4) and ensure that they were realistic in the scenarios and meaningful to respondents.

At the end of the first focus group discussion, participants were asked to complete a short questionnaire, providing more information on how easy it was for them to see a doctor or pharmacist, and a few questions about them and where they lived.

Focus group participants were sent a letter to thank them for their participation and inform them that they would be contacted again to ask them to participate in a follow-up focus group to discuss and pilot the postal questionnaire.

Second round of focus groups

Focus group participants were invited to return to take part in a second focus group discussion in which they completed and commented on various versions of the DCE postal questionnaire and associated letter of invitation and information leaflet. The purpose of this was to validate the questionnaire with respect to confirming that respondents understood the scenarios and choices that were presented to them, and ensuring that the correct number of levels for each attribute was included. Further details on the development of the DCE instrument are provided in the section below outlining the DCE method adopted.

Data management

Qualitative data were primarily managed and analysed using the computer assisted qualitative data analysis package NUD.IST nVivo. Data transcripts were anonymised, securing user anonymity and confidentiality of record, in line with data protection requirements. Qualitative data transcripts were checked for accuracy against tapes. Generally speaking, the data was of high quality and complete.

Analysis of focus groups

Focus group discussions were tape-recorded and transcribed verbatim. A coding frame, based on both a priori and emergent themes was applied to the data within the qualitative data analysis package NUD.IST nVivo.^{69,71} Independent, blind coding was undertaken by two researchers. Top level, general codes were applied as we were primarily interested in establishing the attributes of importance to respondents and their various combinations. The two researchers met to discuss, reconcile and validate their coding frames, to ensure consistent application. Differences in coding were resolved by discussion. The coding frame is summarised in Appendix 2. Simple content analysis was then applied to assess the frequency and weight accorded by respondents to various attributes to determine those selected for final inclusion within the choice scenarios.

Stage 2: Discrete Choice Experiment

Developed in the early 1980s⁶²⁻⁶⁴ discrete choice experiments (one option in a family of empirically based stated preference approaches known as choice modelling) are increasingly being used by health economists to elicit user preferences for different forms of health care delivery.⁶⁰ Discrete choice approaches are preferred by economists as they are rooted in random utility theory.⁶⁵ The method is underpinned by a Lancasterian view of utility which contends that goods and services can be described by their characteristics or attributes and that the utility (satisfaction) yielded by a service is a function of its various attributes.⁶⁶ The total utility or satisfaction a user experiences in the use of services is a function of the combinations of these service attributes. Rational choice theory contends that users choose scenarios that maximise their utility.

Respondents are asked to choose between alternate goods or services, defined in terms of their attributes, for example, service attributes relevant to users' choices to visit either general practitioners or community pharmacists in the management of minor ailments could include e.g. waiting times, access costs to users, privacy of consultation and professional knowledge. Respondents were presented with discrete, pair-wise choice scenarios, differentiated by including different combinations and levels of the relevant attributes identified as important and asked to choose between them. DCE techniques establish the relative importance of service attributes and assess how individuals trade between them i.e. the rate at which they are willing to give up a unit of one attribute for an increase in another.

There are five stages in the conduct of a DCE: (1) identifying the attributes of interest; (2) assigning levels to each attribute; (3) selecting the scenarios to present to respondents to choose between; (4) eliciting participants' preferences; and (5) estimating the weights of each attribute.⁶⁰

Questionnaire development

The themes emergent from the focus group discussions were used to inform the identification of the attributes (and levels) of importance to users considered for inclusion in the questionnaire. In addition, information gleaned from the literature review, recent guidance on the design, analysis and validity within DCEs⁶⁰; and detailed discussions with the identified expert methodological advisors were also used to inform development of the questionnaire.

Participants were first presented with the invitation letter and information leaflet developed for distribution with the postal questionnaire. Next, they were asked to consider the introduction to the questionnaire, the completion instructions, and a description of what the attributes and levels meant, alongside an example of how to complete the choice scenarios to follow.

Participants were then asked to complete various versions of DCE choice scenarios that experimented with the ordering and wording of the attributes and their layout, including:

- Random ordering of the choice attributes
- Logical, sequential ordering of the choice attributes
- Logical, sequential ordering of the choice attributes with same written in each column to minimise cognition requirements

- Logical, sequential ordering of the choice attributes with same written across both columns to minimise cognition requirements
- Narrative as opposed to tabular description and layout of the choice scenarios

Examples of each of the versions of choice scenarios is presented in Appendix 3.

Finally, respondents were asked to complete a modified version of the end section of the questionnaire that aimed to collect information on their use of health services, medicines, general health status and socio-demographic profile. This section of the questionnaire imported questions from the most recent Welsh Health Survey, as well as the most recent version of the EQ-5D general health status instrument in a bid to obtain data via which postal questionnaire respondents could be compared with the Welsh population overall.

Overall the focus group participants were asked for their views on a number of issues related to the materials presented to them, including: how comprehensive and easy the material was to understand and complete; the length and 'user friendliness' of the material; whether any questions were confusing; and their views on general presentation & formatting issues e.g. ordering & presentation of the attributes, font type and size, layout, wording etc. Necessary modifications were made throughout this process.

After finalising the number and choice of scenario attributes and their levels, the next key phase in the questionnaire development was deciding on the order of presentation of the choice scenarios. In particular, consideration was given to:

- the optimal number of choice scenarios to be presented;
- splitting the questionnaire into two versions to ensure orthogonality enables a full-factorial design, to maximise statistical efficiency (i.e. ensuring that while the 2 sets of choices in each questionnaire are independent of each other they are, statistically, substitutes for each other, sharing the same properties);
- ensuring equal difficulty across the choice scenarios in the two versions of the questionnaire (ideally moving from easier to more difficult choices to facilitate learning in the questionnaire completion); and
- the location of the best and worst case choice scenarios.

This was done by considering the number of scenarios emergent from the number of attributes and levels identified. A full factorial design i.e. one that presents all the possible scenarios is considered optimal and most statistically efficient. With 5 attributes, each with two levels, a total of 32 possible scenarios exist in this study. Thus, it was decided to include all of them in two separate questionnaires.

However, to compare each visit to every other visit would require presenting $n=992$ choices. Clearly this was unmanageable. To avoid this, a constant scenario was set. This was based on 'usual practice'. This means that respondents were comparing choices in which one option remained the same. In the questionnaires, Visit A was intended to represent current practice and was always the same i.e. only the details of visit B changed. This should have made it easier for respondents to choose. See example below:

Figure 3.2 Example of a pair-wise choice scenario

Choice example

		Choice 1		
		Visit A	vs	Visit B
Location of consultation		Doctor's surgery		Chemist's shop
Travel time		30 minutes		15 minutes
When seen		Not immediately		Immediately
Length of consultation		10 minutes		5 minutes
Expenses		£2		£2
<i>Please tick preferred option</i>		A <input type="checkbox"/>		B <input type="checkbox"/>

Splitting the 32 choice scenarios across two separate questionnaires also required careful consideration. To preserve the statistical properties of the full factorial design the two sets of choices needed to be orthogonal. This was done by coding each scenario and ensuring that the choices were symmetrical across the two questionnaires. Appendix 4 lists all the possible choices and the questionnaire they were included in.

Having partitioned the choices across two versions of the questionnaire it was also important to ensure that the questionnaires were of equal difficulty, that they progressed from easier to more difficult choices and to appropriately locate the best and worst case scenarios. This was done manually by laying-out and 'eyeballing' the scenarios in each questionnaire to achieve these features in its design.

Pre-piloting the postal questionnaire

Before the questionnaire was distributed to members of the public via post, an informal pre-pilot was conducted to check the face-to-face validity of the questionnaire. N=31 pre-pilot questionnaires were distributed (N=17 with friends, neighbours & work colleagues & including N=14 among focus group participants). These pre-pilot questionnaires were also used to test correlation between attributes. The results indicated that all the attributes had a good degree of independence (i.e. were measuring different things) with a highest correlation co-efficient of 0.35.

Sample selection – Postal questionnaire

The aim was to recruit a sample of respondents representative of the Welsh population. Previous research indicated that for each pre-determined sub-group of the sample, a sample size of 30-100 is sufficient. If 4 sub-groups are identified (e.g. age, gender, socio-economic status, previous use of services) then a minimum sample of around 400 would be required.

Following guidance from methodological experts, sampling was undertaken in two stages. The first involved systematic sampling of Welsh electoral divisions and the second a probability proportionate to size sampling technique from within the electoral divisions. This two stage sampling procedure aimed to ensure that the diverse socio-economic characteristics of the Welsh population were represented.

Systematic sampling of electoral divisions

30 Electoral Divisions (EDs) were selected from the total 865 Welsh EDs. This was done by ranking all 865 electoral divisions from most to least deprived (according to their Welsh Multiple Deprivation Index score) and selecting one every 28 in sequence. N=30 EDs were selected to ensure a spread of socio-demographic characteristics and further because this was the number that could be obtained within the research budget (i.e. because it was necessary to pay to procure the electoral registers within the 30 EDs to obtain contact names and addresses for the postal questionnaire distribution).

A systematic sampling approach was adopted in preference to random sampling to avoid potential skew resulting from random sampling procedures (e.g. ending up with EDs grouped in more or less deprived areas by chance).

Probability proportionate to size sampling within EDs

Having identified the electoral divisions, the next step was to identify the number of participants from each. This was done by applying a probability proportionate to size sampling technique. This ensured that each area had the same probability of being represented in the sample. However, since areas might differ greatly in terms of population size, the data were weighted before analysis to account for this.

Finally, given that there is evidence of under-response from deprived areas in research studies, the project Advisory Group recommended that the most deprived areas should be over-sampled. Hence a double weight was given to the 5 most deprived EDs within the sample of 30.

Thus the numbers sampled in each of the 30 EDs was as below:

EDs 1-5 (most deprived)	N=24 randomly selected from each
EDs 6-30	N=12 randomly selected from each

An Access database was established to hold the names and addresses of the edited registers of the 30 EDs in our sample. It was used to randomly select the required number of records per ED. This was then shifted into 30 separate databases to facilitate creation of mail merge letters and FREEPOST return labels, which included a unique study ID number. The Access database was also used to record the progress of questionnaire distribution and responses.

Distribution of the postal questionnaires

N=420 reply-paid postal questionnaires were distributed. Respondents were given two weeks to respond. Non respondents were prompted with a follow-up letter including another copy of the questionnaire and a further reply-paid envelope.

Data management

Postal questionnaire data were managed and analysed using the Statistical Package for Social Sciences (SPSS) and the multilevel modelling package MLWin. Respondents were identified by number only, thereby securing user anonymity and confidentiality of record, in line with data protection requirements.

Analysis of discrete choice experiment

The DCE postal questionnaire data were analysed using multi-level modelling.⁶⁷ The data were analysed at two levels: discrete choice and user levels. The interaction between respondents' choices and the levels were also analysed. Further details on the analysis of this data are provided in chapter 5.

Stage 3: Interpretation of the findings

The results of the DCE, together with responses from the focus groups and postal questionnaire were interpreted and assessed in terms of policy implications and directions for future research. These are discussed in depth in chapter 6.

Chapter 4. Results – Focus Groups

The aim of this chapter is to present the results of the qualitative focus groups and their consequences for design of the discrete choice questionnaire.

The tape-recordings of the focus groups were transcribed verbatim and coded (independently by two researchers) according to a priori and emergent themes. Results of the two sets of focus groups are summarised below.

First set of focus groups

A total of N=49 participants took part in the first set of focus groups (university staff N=12; age concern members N=16; university students N=10; and community pharmacy users N=11).

A participant profile is included in Appendix 5.

Focus group participant characteristics

The demographic breakdown of focus group participants included a 1:2.5 male to female ratio, which was majority white (87%). There was a reasonable spread across age bands and three-fifths of the sample were married or co-habiting.

Participants were just over 2:1 homeowners to renters. Three-quarters of the sample had access to a car or van. Approximately a quarter of the sample were employed or self-employed, a quarter in school or college and two-fifths of the participants were retired.

Just under half (47%) of the sample rated their health as either excellent or very good, a third (34%) as good and a fifth (19%) as either fair or poor. This compared reasonably closely to the Welsh Health Survey (2003/2004) responses (at 50, 28 and 21% respectively). Just over a quarter (28%) of participants considered themselves to have a long-term illness. This was the same proportion as in the Welsh Health Survey (2003/2004).

Overall, there was a good mix of consultation rates with both general practitioners and community pharmacists; broadly matching those identified in large, representative, national surveys (Carr-Hill, Rice & Roland, 1996; Tully & Temple, 1999). 9% of users had not seen their general practitioner at all in the previous year; two-fifths (40%) had only visited the general practitioner once or twice; and three-quarters (78%) had consulted the general practitioner between one and five times. A fifth (17%) of the users had not consulted the community pharmacist at all in the last year; compared to between 6-20% reported in other survey findings (Tully & Temple, 1999; Rogers, Hassell & Nicolaas, 1999). Over half (57%) of the users had consulted a community pharmacist only once or twice; and four-fifths (80%) had visited the community pharmacy between one to five times.

70% of the sample used the same community pharmacist regularly and there was almost a 60:40 split in the sample between those receiving regular prescription medicine or not. User access to general practitioners was mixed. 75% of participants could usually see a general practitioner within five days. This again broadly matches national trends which indicate that a quarter of people wait more than five days to see a general practitioner (Leech, 2002).

Around two-fifths (38%) of the sample paid for prescription charges and around three-fifths (57%) did not. Just over a third of participants reported having bought medicine in the past four weeks.

In summary, participants in the first round of focus groups covered the spectrum of demographic, socio-economic characteristics. Their self-reported general health status compared favourably to the Welsh population overall. Their consultation rates and access to general practitioners and community pharmacists broadly mirrored those identified in larger national surveys.

Themes and points of interest emerging from the first round of focus groups

A key objective of the research was to identify the attributes relevant to users' choices to visit general practices or community pharmacies to manage minor ailments. The focus group identified a multiplicity of potential attributes. Themes emergent from the focus groups broadly replicated those commonly identified within the lay use of medicines literature and are identified from the coding frame applied to the data.

Rationales for the selection of attributes to explore more fully within the postal questionnaire was based on a number of factors, including: the frequency and emphasis placed on factors in the discussion groups; what is already known from the literature; and whether they were amenable for inclusion within a discrete choice experimental design. A further important consideration in the selection of the attributes was their policy pertinence. Given that a key aim of this research was to investigate user choices to inform future policy, it was decided to focus further investigation on attributes over which policy makers have some degree of control.

Based on these rationales, the five attributes selected for inclusion within the postal questionnaire, and their levels, were as follows:

- **Location of consultation** (*doctor's surgery or chemist's shop*). This was selected given the policy interest in skill-mix substitutions between doctors and pharmacists in the management of minor ailments
- **When seen** (*immediately or not immediately*). This was selected to reflect user and policy makers concerns regarding access to primary care services. In addition, it mirrors well with current primary care targets aiming to ensure that people have access to a primary health care team member within 24-48 hours.
- **Travel time** (*15 or 30 minutes*). This was selected to address the convenience issue frequently cited by users as important to them in determining where they choose to visit to deal with minor illnesses. The 15 and 30 minute thresholds emerged from the focus groups and were felt to differ in that the former may be considered to be very local and quick access e.g. within walking distance, and the latter, not so local e.g. requiring a car journey.
- **Length of consultation** (*5 or 10 minutes*). This was selected as the length of time available to discuss the illness concerned was of central importance to respondents. The 5 and 10 minute thresholds are based on literature estimates concerning average consultation lengths with general practitioners and community pharmacists when seeking advice about minor illnesses.

- **Cost (£2 or £4).** This was selected for inclusion as the financial out-of-pocket expenses faced by users was repeatedly raised as an important factor in determining how to deal with minor illnesses. The thresholds again emerged from the focus group discussions. Consultation choices appeared to be influenced by the perception of incurring a ‘couple of pounds’ of costs (e.g. covering travel costs or cheap medicines) as opposed to say £4 which was closer to the prescription charge and/or what respondents felt you were more likely to pay for an over-the-counter medicines obtained at a pharmacy.

The labelling of the attributes and levels changed several times in response to iterative feedback from the focus group participants. For example, the attribute ‘when seen’ was previously labelled ‘time before seen’. This was changed in response to focus group participant comments that using the word ‘time’ implied waiting time and was off-putting and perhaps likely to bias response. A number of other wording changes to the attributes and levels were made based on similar feedback.

Obviously a number of other factors were identified as important to users in their decision to visit either a general practitioner or community pharmacist to deal with a minor illness. Efforts were made to encapsulate these other considerations by: (1) addressing some of them in the cover letter and leaflet e.g. making clear that the study is interested in how people deal with common, minor conditions, that are familiar or recognisable, last for a short time and cause mild to moderate discomfort; and (2) including a question in the instrument asking respondents to rank the importance of the 5 key attributes focused on alongside the others commonly raised as important within the discussion groups.

The table below summarises how the various attributes identified as important in the focus groups were included and/or dealt with in the research.

Table 4.1 Grouping & coverage of the attributes identified as important

DCE Choices	Questionnaire Letter	Attribute Ranking Question
Location of consultation	Severity of the condition	Ability to have an examination
When seen	Watchful waiting	Confidentiality ensured
Travel time	Excluding A&E, NHS Direct etc.	Professional is able to access your medical records
Length of consultation		Expert knowledge on medicines
Expenses		Knowing the professional
		Privacy during the visit
		Expert knowledge on medical conditions
		Obtaining a diagnosis
		Possible to remain anonymous

Based on the above, various versions of the postal questionnaire were compiled and piloted with participants in the follow-up focus groups.

Follow-up focus group participation

A total of N=36 participants (approx. 75%) returned to take part in the follow-up focus groups. We were concerned in the follow-up groups to offer a male only discussion group in case there were any gender sensitive issues that participants wished to raise but had felt unable to in the first round of mixed gender focus groups. Thus, the number of participants in each of the four follow-up focus groups were as follows: males N=3; age concern members N=14; staff and students N=11; and community pharmacy users N=8.

Points of interest emerging from the follow-up focus groups

As noted above, participants in the follow-up focus groups were asked to complete various versions of the postal questionnaire and supporting materials, differentiated according to the ordering and wording of the attributes and scenarios and their layout.

The key issues emerging, however, concerned the following:

- Logical, sequential ordering of the attributes was preferred (i.e. specifying the health professional/place visited first).
- The majority of participants preferred the version of the questionnaire with 'same for both visits' written across the two columns as it minimised reading and cognition.
- The majority of the participants preferred the tabular layout form. The exception to this was among the elders' groups, the majority of whom preferred the narrative layout.
- There was a strong preference for use of the word chemist as opposed to pharmacist.
- Time before seen was preferred to the use of the term waiting time, which was felt to be unclear.
- Participants exempt from prescription charges had problems with the idea of incurring any cost.
- Participants felt that more effort should be made to reassure potential respondents of the confidentiality of the questionnaire.

The above comments (alongside numerous other more detailed ones) resulted in further substantial revisions to the questionnaires and supporting invitation letter & leaflet. These were then subjected to further piloting. In addition, they were sent to the DCE advisor (Professor Mandy Ryan, University of Aberdeen) and statistical advisor (Dr Kerry Hood, University of Cardiff) to the project for final comments and suggestions.

Chapter 5. Results – Pilot Postal Questionnaire

The aim of this chapter is to present the results of the pilot postal questionnaire.

A total of N=420 questionnaires were sent out by post on 21st November 2005, with one follow-up reminder issued on 9th December 2005.

Representativeness of the questionnaire sampling strategy

Analysis of the N=30 ED areas from which participants were invited to complete the postal questionnaire, compared to the ED areas not included (according to their Welsh Deprivation Index scores), indicated that they compared well (t-test non significant).

Response rates

109 questionnaires were returned, generating a response rate of 26% (13% prior to and 13% after the reminder was issued). There was an approximately equal split between the number of version A & B questionnaires returned, at 48.6% (N=53) & 51.3% (N=56) respectively.

Response broken down by deprivation ranking is summarised below.

Table 5.1 Questionnaire responses by ED deprivation ranking

ED Deprivation Ranking (most to least deprived)	Number of questionnaires distributed	Number of responses	Percentage (%)
1 – 5	120	34	28
6 – 10	60	14	23
11- 15	60	10	17
16 – 20	60	19	32
21 – 25	60	14	23
26 – 30	60	18	30

Only one ED generated no returns, with a further four only providing one response each. None of these low responses were from the five lowest ranked EDs by deprivation.

Indeed, over (double) sampling within the 5 most deprived EDs successfully generated a response rate (28%) comparable to the average response rate (25%) across the other 25 EDs.

Ten 'non-responses' (2%; 10/420) were also received (including e.g. no longer at address, deceased, recently moved, partially sighted, blank no reason given).

Overall, the sampling strategy succeeded in generating responses across the full spectrum of deprivation categories (deprived, average and affluent) present within Welsh EDs.

Only one modification was made to the final version of the questionnaire resultant from the informal pre-piloting exercises (one question was added requesting details of the respondent's highest educational qualification). These questionnaires were distributed in the same way as the postal questionnaire, with the same documentation. For this reason, it was decided to use this data to enhance the sample size. Consequently, N=14 questionnaires returned by previous focus group participants were included in the postal questionnaire analysis, yielding a final sample size of N=123.

Missing Data

A number of respondents (10%) did not complete the questions asking them to rank the various attributes associated with choosing between visiting the doctor or pharmacist in the management of a minor illness. These questionnaires were, however, otherwise complete and thus included in the analyses. One respondent did not complete the majority of the demographic or health status questions. However, they did complete the DCE choice questions and thus this data was included in the analysis. Only 4 (3%) respondents did not complete the DCE choices, resulting in the exclusion of these cases from this part of the analysis. A number of discrete missing values were also detected within a limited number of cases. These appeared to be missing at random. Overall, the data was of high quality and complete.

Postal questionnaire: respondent characteristics*

Key features of the sample responding to the postal questionnaire are summarised below.

Demographic characteristics

The demographic breakdown of focus group participants included a 1:2 male to female ratio. Just under three-quarters (74%) of the sample were married or co-habiting. The majority of respondents were white (96%) closely matching the 2001 Welsh Census Report (98%).⁹¹

Overall, there was a good spread of respondents across age bands (range 18-88 years; mean 55 years; SD 16.3 years). The questionnaire sample under-represented younger 18-39 years age groups (18% compared to 36% in Wales); broadly matched the age breakdown of the 40-59 years age group (38% compared to 35% in Wales); and over-represented older 60+ age groups (45% compared to 30% in Wales).

Socioeconomic characteristics

84% of respondents reported owning their own home and 87% had access to a car or van.

Just over a third (35%) of the sample were employed or self-employed, just under two-fifths (38%) retired and 4% in school or college; compared to 50, 21 and 4% respectively in Wales overall. 21% of the sample reported other employment status

* Note comparisons with Welsh Health Survey data were based on the most recent figures available from Welsh Health Solutions via personal communications with Catherine Roberts, Welsh Assembly Government, Statistical Directorate.⁹¹

(e.g. long-term sickness or looking after home or family) compared to 25% in Wales overall.

The breakdown in occupational classifications within the sample was as follows: professional/manager/technical 28%; administrative/skilled/trades/services 28%; sales/factories/manual 20%; and not classified (retired, long-term sick, housewife, student) 24%.

Over a third (36%) of the sample reported having no educational qualifications, 48% other qualifications and 16% a degree or equivalent. This broadly mirrored Welsh trends overall (30%, 53% & 17% respectively).

Self reported health status

Just under half (46%) of the sample rated their health as either excellent or very good, a quarter as good (26%) and just over a quarter as either fair or poor (28%). This compared reasonably closely to the Welsh Health Survey (2003/2004) responses (at 50, 28 and 22% respectively). In contrast, two-fifths (39%) of respondents reported having a limiting long-term illness, a higher proportion than reported in Wales overall (29%). The average health related quality of life score (as measured by the EQ-5D instrument; where a score of 0 relates to worst imaginable health state and 1 the best imaginable health state) for the sample was 0.77. This compares to the average UK & Welsh population norm scores of approximately 0.85 and 0.86 respectively.⁷⁶⁻⁷⁸

Use of general practice and community pharmacy services

Overall, there was a good mix of consultation rates with both general practitioners and community pharmacists; broadly matching those identified in large, representative, national surveys (Carr-Hill, Rice & Roland, 1996; Tully & Temple, 1999). 12% of users hadn't seen their general practitioner at all in the previous year and 71% had consulted the general practitioner between one and five times. 70% of respondents reported that they try to consult the same doctor at each visit.

9% of the users in the sample reported not having used a community pharmacist at all in the last year; compared to 20% in Wales overall and between 6-20% reported in other survey findings.⁸⁹⁻⁹⁰ Over three-quarters (77%) of the sample reported using the same community pharmacist regularly.

Utilisation of other first-contact services was broadly similar between the sample and Wales overall with 11 & 14% reporting using general practice out-of-hours services and NHS Direct in the last 12 months, compared to 8% for each respectively across Wales as a whole.

Access to services

Access to general practitioners was fair; 90% of respondents reported having to make an appointment to see their general practitioner. Over three-quarters (77%) of participants could usually see a general practitioner within five days, broadly matching national trends which indicate that approximately a quarter of people wait more than five days to see a general practitioner.⁸⁸

Use of medicines

Around two-thirds (64%) of the sample were in receipt of regular prescribed medications; compared to just under a half (49%) reported across Wales generally.

Two-fifths (40%) of the sample paid for prescription charges and three-fifths (60%) did not; compared to an approximate 50:50 split in the UK overall.⁹⁰

45% of respondents reported having bought a medicine in the past four weeks, compared to 40% across Wales as a whole. The breakdown between purchase of conventional, herbal, homeopathic and supplement medicinal products (89, 12, 4 & 42%) at the national level was broadly replicated within the sample (83, 8, 6 & 30%).

Summary of sample characteristics

In summary, the ethnic and educational profile of the sample was similar to that in Wales overall. However, the sample included higher and lower proportions of older and younger respondents respectively, compared to the Welsh population overall. Related to this, the sample included fewer people in employment and higher numbers of the retired. The sample reported a broadly similar profile of self-reported general health status categories. Yet, a higher proportion of the study sample reported the presence of a limiting long-term illness and poorer health related quality of life scores compared to the Welsh population overall. In addition, greater numbers in the sample reported taking regular prescription medication than across Wales generally. Access to general practices was generally comparable to that within the UK as a whole. In addition, utilisation of general practice and other first contact services was broadly similar between the sample and Wales overall. A higher proportion of the sample reported using the community pharmacy in the last year. Yet, similar proportions reported buying medicines in the last 4 weeks, of broadly the same types within the sample compared to across Wales generally.

While the sample mirrored Welsh and national trends in some respects, it is clearly not representative of Wales overall. This was not unexpected given the pilot nature of the research and consequently the small sample size recruited. In addition, the under representation and over representation of older age groups respectively is not uncommon in pharmacy practice research studies.^{80-83 & 90} Indeed, many of the resultant differences in the sample characteristics compared to the Welsh population are likely to be related to recruitment of a higher number of older, retired and less healthy respondents who use health services and medicines more frequently.

Despite this, respondents to the pilot postal questionnaire covered the full range of socio-demographic and socio-economic characteristics, as well as exhibiting diverse service and medicine utilisation profiles. Consequently the participating sample encompassed sufficient diversity to investigate the full range of factors and processes expected to influence user decisions regarding whether to visit general practitioners or community pharmacists in the management of minor illnesses.

Postal questionnaire: respondent ranking of the attributes

How did respondents to the questionnaire rank the attributes?

A key objective of this study was to identify attributes relevant to and their impact on users' choices between visiting general practitioners or community pharmacists to deal with minor ailments.

Before completing the questionnaire, respondents were asked to rank the 5 key attributes identified as relevant in the qualitative development stages (and subsequently chosen for inclusion in the discrete choice scenarios within the questionnaire) in order of their importance to them when choosing between visiting either a general practitioner or community pharmacist to deal with minor illnesses. The results are summarised in the table below.

Table 5.2 Rank importance of attributes included within the choice scenarios*

Attribute	Rank Position	Number (%) choosing that rank*
When seen	1 st	93 (85)
Location	2 nd	44 (42)
Length	3 rd	40 (38)
Travel time	4 th	48 (45)
Expenses	5 th	73 (69)

Prior to completion of the choice scenarios in the questionnaire, respondents' ranking of the attributes indicated that 'when seen' and 'expenses' were the most and least important considerations in deciding between visiting either a general practitioner or community pharmacist to deal with minor ailments.

At the end of the questionnaire, respondents were presented with all the attributes raised in the focus group discussions as potentially relevant to users' decisions over whether to visit either a general practitioner or community pharmacist to deal with minor illnesses. This time they were asked to pick and rank the five most important attributes to them. The results are summarised in the table below.

* Note: these figures are based on less than the full sample as 19 respondents either did not (N=14) or only partially (N=5) completed the ranking exercise.

Table 5.3 Rank importance of all the attributes identified as potentially important within the focus groups*

Attribute	Number (%) who chose item	Most frequent ranking position	Number (%) choosing that rank	Designated Rank based on % choosing
Obtaining a diagnosis	93 (76)	2	28 (30)	3
Expert knowledge on medical conditions	74 (60)	1	35 (47)	1
When seen	64 (52)	1	25 (39)	2
Ability to have an examination	57 (46)	4	19 (33)	5
Professional able to access medical records	51 (42)	4	16 (31)	6
Expert knowledge on medicines	45 (37)	2	18 (40)	4
Length of consultation	29 (24)	5	9 (31)	
Privacy during the visit	28 (23)	3	10 (36)	
Confidentiality ensured	28 (23)	5	12 (43)	
Knowing the professional	25 (20)	3	8 (32)	
Travel time to visit	24 (20)	2 or 5	8 (33)	
Location of consultation	23 (19)	5	8 (35)	
Expenses	17 (14)	5	14 (82)	
Possible to remain anonymous	4 (3)	5	2 (50)	

Only six attributes were picked by more than one third of respondents. Of the five attributes included in the DCE choice scenarios only ‘when seen’ remained within the top group of most important attributes influencing user choice over whether to visit a general practitioner or community pharmacist. Interestingly, four of the six top attributes appear to relate to features more commonly associated with consulting general practitioners: obtaining a diagnosis; expert knowledge on medical conditions; ability to have an examination; and professional able to access medical records.

Postal questionnaire: the DCE model

Key objectives of this study were to identify the importance of the attributes identified as relevant to users’ choices between visiting general practitioners or community pharmacists to deal with minor ailments and how they traded between them in their choices. The results of the DCE model below addresses these objectives.

Multilevel modelling analysis

The DCE data were analysed with a multilevel logistic regression model using MLWin software.^{103 & 104} This takes account of the variation between individuals (level 2) the correlation between the multiple responses from within each individual (level 1) and allows for individuals to have a different underlying propensity to trade (random intercept). The dependent variable is whether the respondent chooses the alternative scenario over the constant scenario for each choice (Note: the constant scenario included doctor’s surgery as the location, 30 minutes travel time, not being seen immediately, a 10 minute consultation and £2 in expenses). Explanatory variables are the five attributes, with the level representing the level of the alternative that is being offered. For example, for the comparison to the best scenario, the explanatory variables would represent the location being the chemist’s shop, with a 15 minute travel time, being seen immediately for 10 minutes with expenses of £2.

The categorical variables representing these attributes were coded to represent the levels offered in the scenarios. The coding of the attributes was as listed below. The

higher valued levels ('1') represent those which are considered 'better' in terms of representing elements of the best scenario.

Table 5.4 Coding of the attribute levels in the regression model

Attributes	Levels	Coding
Location of consultation	• GP surgery	0
	• Chemist's shop	1
Travel time	• 30 minutes	0
	• 15 minutes	1
When seen	• Not Immediately	0
	• Immediately	1
Length of consultation	• 5 minutes	0
	• 10 minutes	1
Expenses	• £4	0
	• £2	1

When designing a discrete choice experiment it is important to identify which interactions between attributes are important to test. Whilst the overall experiment was designed to be able to calculate higher order interactions, since sample size for the pilot is relatively small, it was decided to focus on the two way interactions between location (as the key attribute of interest) and the other four attributes. This allowed the exploration of the impact of combinations of location and for example travel time combined in people's choices.

The result of the 2 level logistic regression model is presented below. The magnitude of the beta co-efficients indicates the change in utility (or satisfaction) associated with changing the level of the attribute. '*When seen*' has the largest main effect, which indicates that switching from a scenario in which the attribute levels change from not immediately to immediately results in the largest improvement in utility. A shorter '*travel time*' and less '*expense*' provide similar levels of improvement in utility, with a longer '*length of consultation*' providing less of an improvement. The main effect for '*location of consultation*' indicates that changing from GP to Chemist results in the smallest change in utility, and the negative sign indicates that the chemist is less preferred than the GP. This is not significantly different from zero, but it is important to consider the overall effect of '*location of consultation*' as some of the interactions are significant.

Table 5.5 Results of the DCE regression model

Attributes	Beta	SE	P-value
When seen	2.176	0.174	<.001
Travel time	1.655	0.172	<.001
Expenses	1.600	0.174	<.001
Length of consultation	0.721	0.169	<.05
Location of consultation	-0.136	0.241	Ns
Interactions			
• Location by travel time	-0.113	0.224	ns
• Location by when seen	-0.216	0.225	ns
• Location by length	-0.907	0.224	<.05
• Location by expenses	-0.950	0.227	<.05
Constant term	-2.274		
N	2006		
Level 2 constant	3.541	0.508	
Level 1 constant	0.787	0.026	

Of the four interactions with location, only *length of consultation* and *expenses* are significant. Whilst the direction and magnitude of the interactions look similar they need to be interpreted in terms of the main effects. Table 5.6 below shows the impact on utility of each of the four possible combinations of *location* and *length of consultation* levels, all other factors being held constant. A 5 minute consultation with the GP is the reference category and the other values represent variations from that. It can be seen that there is a large increase in utility for a 10 minute consultation with a GP, but that either length of consultation with a chemist results in a reduction in utility and indeed a longer consultation with a chemist is less preferable than a shorter one.

Table 5.6 Impact on user utility of location & length of consultation

Attribute Level	GP	Chemist
5 min. consultation	0	-0.136
10 min. consultation	0.721	-0.322

Table 5.7 highlights the impact on utility of each of the four possible combinations of *location* and *expense* levels, all other factors being held constant. A consultation with the GP and expenses of £4 are used as the reference category. Incurring expenses of £2 and seeing a GP gives the largest increase in utility, whilst seeing a chemist and it being more expensive (£4) gives a decrease in utility. However, if there was a cost saving for the responder, then seeing a chemist gave an increase in utility.

Table 5.7 Impact on user utility of location & expenses

Attribute Level	GP	Chemist
£4	0	-0.136
£2	1.600	0.514

Feasibility of the DCE methods

Another key objective of the research was to ascertain the feasibility of using DCE methods through a postal questionnaire instrument to understand user decision-making processes in choosing between visits to general practices or community pharmacies to manage minor ailments.

This was explored in a number of ways by considering: time and difficulty to complete the questionnaire; the extent to which users meaningfully traded between attributes; and the strength and rationality of the users' preferences.

Time and difficulty in completing the questionnaire

70% of respondents indicated that they had found the questionnaire either very easy (46%) or somewhat easy (24%) to complete. A fifth of respondents (21%) reported the questionnaire to be neither easy nor difficult to complete. Less than 10% of respondents reported the questionnaire to be somewhat (7%) or very (2%) difficult to complete. There were no statistically significant associations in difficulty of completion by either age or gender.

Average time taken to complete the questionnaire was 14 minutes (median 10; range 3-50; SD 7.7). 99% of the sample completed the questionnaire within 30 minutes or less (52, 73 & 94% within 10, 15 or 20 minutes or less respectively). Mean completion time was the same for men and women.

As expected, time taken to complete the questionnaire and reported difficulty increased with age.

Average time taken to complete the questionnaire ranged between 11, 13 and 17 minutes within the 18-39, 40-59 and 60+ age groups respectively. As reported difficulty increased, so too did completion times. Completion time increased with increased reported difficulty (in 3 minute increments) ranging between 12, 15, 18 and 21 minutes among those reporting it very easy, somewhat easy, neither or somewhat or very difficult respectively.

Overall, results relating to the time and difficulty associated with completing the questionnaire were encouraging, indicating that it was not too onerous for respondents; with the majority able to complete the instrument within the 15 minutes indicated as a guide in the invite letter to participants.

The extent to which respondents' traded between attributes

Discrete choice methods rely on respondents trading-off levels of the various attributes presented to them when making their choices between the alternate scenarios offered. Non-traders typically repeatedly choose the constant scenario. There can, of course, be valid reasons for this. It may be they genuinely believe the constant scenario is a good option, simply prefer its combination of attributes, or if it represents current practice feel no need to change. People rarely, however, hold

dominant preferences but rather vary their choices depending on the attributes on offer.

Encouragingly, the vast majority of respondents (95%; 113/119) appeared to ‘play the game’ and trade between the various levels of the attributes on offer to them in making their choices between the alternate scenarios. Only 6 (5%) respondents repeatedly chose the constant (GP) scenario. This group were on average older (65 vs 55 years), all exempt from paying prescription charges, with the majority (4/6) reporting the presence of a limiting long-term illness; reasons which either individually or collectively offer a reasonable explanation for their preference for, and hence repeated selection of, the constant GP scenario. Time taken to complete the questionnaire was very similar between traders and non-traders (13 vs 14 minutes) indicating that the non-traders spent as much time considering the choices on offer and were not simply repeatedly selecting the constant scenario in order to get through the questionnaire quickly.

Exploring the strength and rationality of user’s choices

The two questionnaires included a number of choice scenarios in which only one attribute changed (and everything else was identical). Descriptive analysis of these choices offers insight into the strength and ‘rationality’ of respondents’ preferences and choices.

Table 5.8 Choice scenarios with only one attribute changing

Attribute	Questionnaire	Choice
Location	B	10
	A	8
Length of consultation	B	4
Travel time	B	11
When seen	B	7
Expenses	B	17

When everything between the two visits was the same, except for the ‘*location of consultation*’ the vast majority of respondents chose the option that offered doctor’s surgery as opposed to chemist’s shop (77% and 90% in questionnaires A and B respectively) indicating a strong preference to consult with a GP.

User selections between the visits on offer in which only the ‘*when seen*’, ‘*travel time*’ and ‘*expenses*’ attribute changed (i.e. when everything else between the two scenarios on offer was identical) indicated that the vast majority of respondents chose the visit in which they could be seen quickest and incurred less travel time and expense (94, 90 & 97% respectively). These choices appeared sensible and in the direction anticipated.

The ‘rationality’ of users’ choices in terms of their preference for ‘*length of consultation*’ was less obvious. When only this attribute changed (and everything else was identical) the majority of users (71%) chose the visit with a shorter (5 minute) as opposed to longer (10 minute) consultation. This appears counterintuitive. However, although not seemingly ‘rational’ this choice may be reasonable in that the

location of consultation was 'doctor's surgery' in both options and there is considerable evidence in the literature indicating that people prefer not to 'bother the doctor' or take up their time for minor illnesses. Alternately, it could simply be that the attribute 'length of consultation' was not as important in the choice (as suggested by the multilevel model), or given that respondents were being asked about dealing with minor illnesses that they felt shorter consultations would be sufficient. These are questions that require further exploration.

A final way to assess the strength and rationality of user choices is to examine the proportion of users who selected a 'worst case' scenario purposefully included in both questionnaires (Choices 10 and 12 in Questionnaires A and B respectively). This scenario was deemed to be 'worse' as it was thought to generate less utility or satisfaction compared to the constant scenario. The two visits in this pair-wise choice were equivalent in terms of location, travel time and when seen; however, the alternate visit option offered the respondent a shorter consultation and was more expensive. Utility theory proposes that users select the combination of attributes that maximises their satisfaction. Thus, it was expected that users would select the constant rather than the alternative scenario offered in these pairs of choices. Contrary to this expectation, however, just under a quarter (23%) of respondents overall selected the option that was deemed 'worse' (18% and 29% in questionnaires A and B respectively).

This result could have occurred because respondents held stronger preferences on one or more of the other attributes and the extra satisfaction or utility offered by an increase in the two attributes that changed was so small that the two visits were considered to be equal or interchangeable. This does not accord with the result of the main model, however, which indicates that both expenses and length of consultation had a significant impact on the choices made. Another explanation is that the respondents held lexicographic or dominant preferences for a particular attribute which was all-important in the choice with the others disregarded. Further detailed investigation is required to try to understand the relatively high proportion of respondents who made seemingly 'irrational' choices in selecting the worst case scenario.

In summary, the results above suggest that the questionnaire was 'doable' and not too onerous on respondents in terms of either time or difficulty. Further, the vast majority of respondents undertook the trading between attributes necessary to make the DCE methods meaningful. In addition, respondents' choices were generally 'rational', albeit with a couple of emergent anomalies that require further investigation. Overall, respondents behaved broadly in line with economic theory, selecting options in directions prior hypothesised to maximise their utility and satisfaction levels, thus making seemingly 'rational' choices.

Chapter 6. Discussion

The aim of this chapter is to synthesise and reflect on the findings of the research outlined in this report. It begins by considering the methods applied in this research, their strengths and limitations. It then considers the relevance of the results to current policy debates. It concludes by considering the implications for further research.

Success and limitations of the methods applied

A key objective to this research was to ascertain the feasibility of using DCE methodology to understand user decision-making processes in choosing between visits to doctors' surgeries and pharmacies in the management of minor illnesses. The results outlined in the previous chapter demonstrate that the use of discrete choice methodology was in fact feasible and relatively successful. Responses, although lower than hoped for, were received from individuals covering the full range of demographic and socio-economic characteristics, yielding a sample of sufficient diversity to investigate the full range of factors and processes expected to influence user decisions regarding whether to visit general practitioners or community pharmacists in the management of minor illnesses. Importantly, the DCE questionnaire was 'doable' and seemed not to present undue difficulties in terms of time or difficulty in completion. In addition, it appeared to demonstrate the acceptable face and internal validity. The vast majority of respondents undertook the necessary trading between the attributes on offer, making seemingly 'rational' choices, which seemed likely to maximise their utility and satisfaction, in line with economic theory.

Central to these successes was the utilisation of a mixed method approach to the development and piloting of the questionnaire instrument. This succeeded in resolving a number of methodological challenges including, determining the key attributes, their appropriate levels and trialling the face and internal validity of the questionnaire instrument and supporting materials. The qualitative development work was crucial to this. The focus groups ensured that respondents were able to 'picture the situation' and were invaluable in ensuring that the choices presented were realistic and meaningful, thus ensuring that respondents 'played the game'.

The combination of both qualitative and quantitative methods in this research have, undoubtedly, provided a fuller understanding of complex user preferences and choices over whether to visit a doctor or chemist to manage minor ailments, highlighting how organisational, structural and institutional factors impinge on user choices.

Despite the general success of the pilot questionnaire, however, a number of methodological challenges remain that require further investigation to facilitate the design of a more sensitive DCE instrument. For example, the response rate to the questionnaire was low. Extra effort will be required to investigate ways to boost the response rate in any future use of the questionnaire. For example, it would be useful to explore why there was a 2:1 female to male response rate. In addition, a couple of anomalies emerged with regard to the 'rationality' and strength of the user preferences expressed. These also require further investigation.

The potential for different interpretations of minor ailments by participants was not explored in depth. The description which was included in the patient information

leaflet that was distributed with the questionnaires defined minor illness as “common ailments that you are familiar with, or recognise the symptoms of.... that last for a short time course and cause mild to moderate pain or discomfort such as, aches, pains, coughs, colds, headaches, minor sprains, stomach upsets and so on.” However, a minor ailment for one person might be recognised as the symptoms of a more serious illness for another.

In addition, results from the questionnaire raised interesting questions concerning the appropriateness of the attributes identified as key and thus selected for inclusion within the DCE choice scenarios. Multiple potential attributes were identified within the focus groups. A pragmatic decision was taken however (given that a key aim of the development of the DCE questionnaire is to inform future policy) to focus on the attributes identified by users as important but also over which policy makers have some degree of control. However, when respondents were presented with all the potentially relevant attributes raised in the focus groups and asked to select and rank the five most important to them, only one of the attributes (*‘when seen’*) included in the DCE choice scenarios appeared in the top six selected.

Further, four of the six top ranked attributes appeared to relate to features more commonly associated with consulting general practitioners. This result seemed to suggest, as did other responses to the questionnaire, that many respondents held very strong preferences to visit a general practitioner as opposed to a community pharmacist.

Taken together, these results raise important questions: were the attributes selected for inclusion within the DCE choice scenarios those most important and most likely to influence user choices?

It may be, however, that these issues are not necessarily as problematic as they first seem. If the stated policy aim is to optimise skill mix responses in dealing with minor illnesses, then whether users prefer to visit a doctor or not is a redundant consideration, as what is really important to policy makers is how best to encourage users to substitute the chemist in place of the doctor in the current context with the levers currently available to them. Nonetheless, these are issues that warrant further consideration.

Implications for policy and practice

Government policy has, for a number of years, been trying to reconfigure first contact services in a bid to better target and meet demand. In particular, successive policy documents have endeavoured to optimise primary care skill mix by encouraging substitution from general practitioners to community pharmacists in the management of minor illnesses. To date, efforts to effect this substitution have been moderately successful.^{25,27,29,31}

The results presented above, offer potentially interesting policy insights regarding user preferences for key service characteristics associated with general practice or community pharmacy routes to manage minor illnesses and the impact on users' choices as these change. Indeed, they offer a number of clues regarding how best to encourage users to substitute community pharmacy consultations in place of visits to general practices to deal with minor ailments.

Users express clear, logical preferences to be seen quickly (immediately preferred to not immediately) with minimal travel time (15 minutes preferred to 30 minutes) and expenses (£2 preferred to £4). Encouragingly, services routinely available within community pharmacy to deal with minor illnesses are currently able to satisfy user preferences for these service characteristics: most people live within a short distance of their local chemist, with whom they can usually consult immediately (generally more quickly than with a general practitioner); often incurring little expense. Less encouraging is the clear result that users typically exhibit strong preferences to visit general practices rather than pharmacies to deal with minor ailments; albeit that this preference is modified if visiting a pharmacy will deliver cost savings.

Taken together these results suggest that there is potential to improve the efficiency of policies aiming to increase use of community pharmacies as opposed to general practice in the management of minor illnesses if policy makers continue to reinforce the benefits of the immediate and local availability of community pharmacies that can offer brief consultations, often at less or the same cost as consulting a general practitioner to receive a prescription medicine.

That said, policy directions may currently be working at cross-purposes in Wales. In October 2003, it was announced that prescription charges would be abolished in Wales. The changes are being introduced in phases with free prescriptions available to all by April 2007.⁹² At the time of the questionnaire distribution the charge for prescription medicines in Wales was £3. The impact of the reduction in prescription charges is largely unknown. However, previous research investigating the response of demand for medicines to changes in price/charges indicate that prescription and other medicines are normal goods, characterised by an inverse relationship between price and demand (i.e. when prices/charges increase, demand decreases and vice versa).⁹⁴⁻¹⁰² Prescription medicines are now relatively cheap to access in Wales and very soon will be free. This recent policy development may inhibit or even counteract the longer-standing policy aim to encourage users to substitute a visit to the chemist in place of a visit to a doctor to manage minor illness episodes. The result of this pilot study indicated that users typically expressed a strong preference to consult general practitioners rather than pharmacies; although they are more inclined to visit a chemist if they feel it will save them money. However, as prescription medicines become cheaper and ultimately free, it seems increasingly unlikely that users will save money by visiting a chemist and buying a medicine to self-treat their minor illnesses. On the contrary, the abolition of prescription charges may increasingly encourage users to visit the location of their choice, the doctor's surgery, to obtain prescription medicines to deal with minor ailments. More detailed consideration of these factors is required. Indeed, the Royal Pharmaceutical Society of Great Britain has called for the Welsh Assembly Government to investigate the implications of the abolition of the prescription charge and its implications for provision of services and workload within primary care.⁹³ Ongoing research efforts building on this project will aim to consider these issues further.

Implications for further research

A number of implications for future research emerge from this study. There is much still to learn about what influences users' choices between visiting a doctor or chemist to manage minor illness episodes. As noted, above there are specific methodological questions that require further investigation and which are necessary for the refinement of the pilot postal DCE questionnaire. Specifically, these include

considering how to improve response rates and conducting further qualitative work to enhance the internal validity of the questionnaire instrument through investigation of the potential existence of dominant preferences, framing, order or learning effects while completing the questionnaire. More detailed consideration of the price/charges threshold in Wales is also required to gain a fuller understanding of the impact of '*expenses*' on users' choice and decision making processes amid the phased abolition of charges policy in Wales. Indeed, investigations of these issues are the immediate 'further research' priority. The research team are currently searching for funding sources to explore these issues further and enable them to refine and develop the postal questionnaire and distribute it to a sample across Wales (N=3,000). This will enable improvements to the questionnaire and enhance the generalisability of the research and improve its dissemination and publication potential.

In addition, further inter-disciplinary frameworks may be usefully explored to develop deeper understanding of user preferences and choices. For example, qualitative cognitive de-briefing techniques (utilised within psychology) could be productively undertaken via interviews with respondents who demonstrate methodologically interesting or unexpected (e.g. seemingly 'irrational') preferences. This may offer more detailed understanding and insight regarding the complex decision and choice processes involved in completing the DCE questionnaire. This is an area that is worthy of further research and is currently being considered by members of the research team.

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**VISITING A DOCTOR OR PHARMACIST TO DEAL WITH MINOR ILLNESS:
WHAT INFLUENCES YOUR DECISION?**

This is just a question to start off this meeting

Can you write down three words or phrases which describe what influences your decisions on whether to visit a doctor or pharmacist to deal with minor illnesses?

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Remember - you don't need to put your name on this form.

First Focus Groups – Topic Guide

ACCESS

'Being able to use or access...'

- Convenient (more or less)
Ability to have a proxy consultation
- Waiting time
No need to wait to see a GP
Difficulty getting an appointment to see a GP
- Affordability
Can't afford to buy medicines over-the-counter
Need to access medicines free on prescription
More affordable to buy medicines than pay prescription charge
Travel and time costs

SELF-CARE

'Dealing with it yourself...'

- When familiar with the medicine or used before
- When confident self-treating
- When reluctant to visit a professional
- Empowering, more control & autonomy in care
- More equal partnerships between professionals and users
- Easier or more difficult to reveal symptoms
- Use self-care and pharmacist as a 'stepping stone' into other care, if necessary

USE OF RESOURCES

Do you have any preference over paying prescription charges or buying medicines over-the-counter?

- Affordability of medicines

What about how we use doctors' time?

- Use of time
Don't want to bother GPs or waste their time
Decreases GPs workload
Frees GP time for needier patients
More appropriate use of GP and pharmacy skills
Saves user time

How important is the fact that you can see a pharmacist without having to affect your work?

- Money costs
Saves users' money
No time off work needed
Saves NHS money

PROFESSIONAL EXPERTISE & SETTING

What about your confidence in GPs and CPs in dealing with minor things?

- Ability to diagnose
 - Doctors can
 - Pharmacists not trained to diagnose
- GP advantages
 - Doctors safer
 - Other benefits from a GP consultation e.g. lifestyle and health promotion advice
 - GP has medical history and notes
- GP disadvantages
 - Lack of time
 - When prefer not to disclose certain information to GP
- Pharmacist advantages
 - More time
 - Experts in medicines
 - More informal consultation
 - Able to be anonymous
 - Can consult for others e.g. children, partner
- Pharmacist disadvantage
 - No access to patient notes or history
 - Difficult to say no to determined customers
 - Pharmacies businesses and mixed incentives e.g. profit motive

SAFETY ISSUES

Do you think there are risks in choosing between a GP or CP?

- Patient safety
 - Doctors safer
 - Adequacy of self-diagnosis
 - Potential abuses could arise
 - Danger user chooses the wrong medicine
 - Increased risk of adverse reactions, contraindications & side effects
 - Risk of inappropriate, unnecessary or overuse of medicines
 - Potentially masking more serious symptoms
- Community safety
 - Overuse resulting in 'immunities' developing in populations
 - Increases in drug resistant organisms
 - Dangers with strong medicines
 - Increased reliance on drugs: 'pill for every ill'; & 'slaves to medications'
- Professional safety - Increased risk – medicolegal implications

Focus Group Coding Frame

ACCESS

- Affordability
- Convenience
- Levels
- Waiting times

ELEMENTS OF THE CONSULTATION

- Adequacy
- Continuity
- Examination
- GP attitude
- Knowing the professional
- Validation of illness
- Proxy consultation
- Professional expertise
- Anonymity

NATURE OF THE CONDITION

- Familiarity
- Pain level
- Personal or embarrassing
- Prolonged/seriousness

RESOURCES

- GP time
- User time
- Pharmacist time
- Money resources

SAFETY

Alternate versions of DCE Choice Scenarios

Random ordering of the choice attributes

• CHOICE 5	Visit A	Visit B
Travel time	30 minutes	15 minutes
Waiting time	Next day	Next day
Cost of the medicines	£2	£2
Health professional visited to deal with minor ailments	General Practitioner	Community Pharmacist
Consultation length	7 minutes	7 minutes

What kind of visit would you prefer?
(tick one box only)

Prefer visit A or Prefer visit B

Logical, sequential ordering of the choice attributes

• CHOICE 5	Visit A	Visit B
Health professional visited to deal with minor ailments	General Practitioner	Community Pharmacist
Travel time	30 minutes	15 minutes
Waiting time	Next day	Next day
Consultation length	7 minutes	7 minutes
Cost of the medicines	£2	£2

What kind of visit would you prefer?
(tick one box only)

Prefer visit A or Prefer visit B

Logical, sequential ordering of the attributes with same written in each column to minimise cognition requirements

• CHOICE 5	Visit A	Visit B
Health professional visited to deal with minor ailments	General Practitioner	Community Pharmacist
Travel time	30 minutes	15 minutes
Waiting time	Same	Same
Consultation length	Same	Same
Cost of the medicines	Same	Same

What kind of visit would you prefer?
(tick one box only)

	Prefer visit A		Prefer visit B
	<input type="checkbox"/>	or	<input type="checkbox"/>

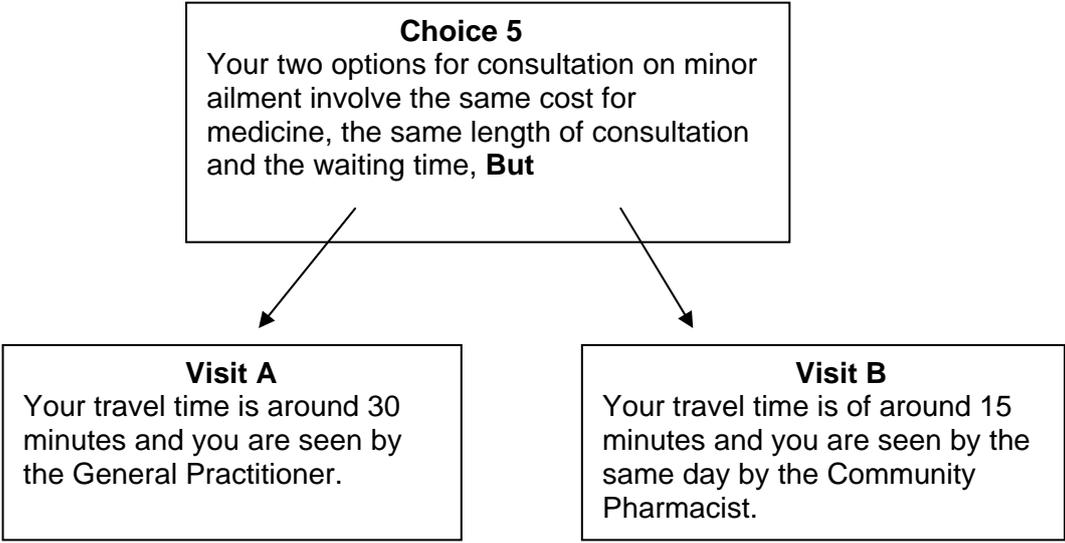
Logical, sequential ordering of the attributes with same written across both columns to minimise cognition requirements

• CHOICE 5	Visit A	Visit B
Health professional visited to deal with minor ailments	General Practitioner	Community Pharmacist
Travel time	30 minutes	15 minutes
Waiting time	Same for visit A and B	
Consultation length	Same for visit A and B	
Cost of the medicines	Same for visit A and B	

What kind of visit would you prefer?
(tick one box only)

	Prefer visit A		Prefer visit B
	<input type="checkbox"/>	or	<input type="checkbox"/>

Narrative as opposed to tabular description and layout of the choice scenarios



What kind of visit would you prefer?
(tick one box only)

Prefer visit A

or

Prefer visit B

Appendix 4

Scenarios	Location of Consultation	Travel time to	When seen	Length of Consultation	Expenses	A	B	C	D	E	CODE	Q
1	Chemist's	15 minutes	Immediately	3 minutes	£2	1	1	1	0	1	abce	A
2	Chemist's	15 minutes	Not immediately	3 minutes	£2	1	1	0	0	1	abe	B
3	Chemist's	15 minutes	Immediately	7 minutes	£2	1	1	1	1	1	abcde	A/B
4	Chemist's	15 minutes	Not immediately	7 minutes	£2	1	1	0	1	1	abde	A
5	Chemist's	15 minutes	Immediately	3 minutes	£4	1	1	1	0	0	abc	B
6	Chemist's	15 minutes	Not immediately	3 minutes	£4	1	1	0	0	0	ab	A
7	Chemist's	15 minutes	Immediately	7 minutes	£4	1	1	1	1	0	abcd	A
8	Chemist's	15 minutes	Not immediately	7 minutes	£4	1	1	0	1	0	abd	B
9	Chemist's	30 minutes	Immediately	3 minutes	£2	1	0	1	0	1	ace	B
10	Chemist's	30 minutes	Not immediately	3 minutes	£2	1	0	0	0	1	ae	A
11	Chemist's	30 minutes	Immediately	7 minutes	£2	1	0	1	1	1	acde	A
12	Chemist's	30 minutes	Not immediately	7 minutes	£2	1	0	0	1	1	ade	A/B
13	Chemist's	30 minutes	Immediately	3 minutes	£4	1	0	1	0	0	ac	A
14	Chemist's	30 minutes	Not immediately	3 minutes	£4	1	0	0	0	0	a	B
15	Chemist's	30 minutes	Immediately	7 minutes	£4	1	0	1	1	0	acd	B
16	Chemist's	30 minutes	Not immediately	7 minutes	£4	1	0	0	1	0	ad	A
17	Doctor's Surgery	15 minutes	Immediately	3 minutes	£2	0	1	1	0	1	bce	B
18	Doctor's Surgery	15 minutes	Not immediately	3 minutes	£2	0	1	0	0	1	be	A
19	Doctor's Surgery	15 minutes	Immediately	7 minutes	£2	0	1	1	1	1	bcde	A
20	Doctor's Surgery	15 minutes	Not immediately	7 minutes	£2	0	1	0	1	1	bde	B
21	Doctor's Surgery	15 minutes	Immediately	3 minutes	£4	0	1	1	0	0	bc	A
22	Doctor's Surgery	15 minutes	Not immediately	3 minutes	£4	0	1	0	0	0	b	B
23	Doctor's Surgery	15 minutes	Immediately	7 minutes	£4	0	1	1	1	0	bcd	B
24	Doctor's Surgery	15 minutes	Not immediately	7 minutes	£4	0	1	0	1	0	bd	A
25	Doctor's Surgery	30 minutes	Immediately	3 minutes	£2	0	0	1	0	1	ce	A
26	Doctor's Surgery	30 minutes	Not immediately	3 minutes	£2	0	0	0	0	1	e	B
27	Doctor's Surgery	30 minutes	Immediately	7 minutes	£2	0	0	1	1	1	cde	B
28	Doctor's Surgery	30 minutes	Not immediately	7 minutes	£2	0	0	0	1	1	de	CONST
29	Doctor's Surgery	30 minutes	Immediately	3 minutes	£4	0	0	1	0	0	c	B
30	Doctor's Surgery	30 minutes	Not immediately	3 minutes	£4	0	0	0	0	0	1	A/B
31	Doctor's Surgery	30 minutes	Immediately	7 minutes	£4	0	0	1	1	0	cd	A
32	Doctor's Surgery	30 minutes	Not immediately	7 minutes	£4	0	0	0	1	0	d	B

Focus Group Participants – Initial Profile Analysis

Four focus groups were held, with a total of 49 participants. Questionnaires were distributed at the end of the groups. This initial analysis is based on N=47.

Table One: Basic characteristics*.

Age	
21- 29	23%
30 – 59	36%
60 & over	40%
Ethnicity	
White	87%
Other	13%
Marital Status**	
Married or Living with a partner	60%
Other	36%
Employment Status**	
Retired	40%
Employed or Self-employed	28%
School or college	23%
Long term sickness or disability	4%
Housing Status	
Owned	70%
Rented	30%
Car available to the household	
Yes	75%
No	26%

* Unless otherwise noted, on all tables, total percentages are not always exactly 100% due to rounding.

** 4% missing data on these questions.

The youngest person to attend the focus groups was 21, the oldest 76. The average age was 55. There was a higher percentage of people from ethnic groups other than white than in the population as a whole (Census, 2001).

Table Two: Health Status*.

In general, would you say your health is...?	16 - 44	45 - 64	65+	Total	WHS 03/04 Total
Excellent	22	0	7	11	16
Very Good	44	27	36	36	34
Good	33	47	21	34	28
Fair	0	13	29	13	15
Poor	0	13	7	6	6

Table Three: Limiting long term illness*.

Do you have any long-term illness, health problem or disability which limits your daily activities or work that you do?	16 - 44	45 - 64	65+	Total - all
Yes	0	54	46	28
WHS 03 / 04 figures	12	33	55	28

Table Four: Health Service use*.

In the last year, how many times have you consulted or spoken to a GP about yourself?

Not at all	9%
Once or twice	40%
3-5 times	38%
6-10 times	6%
More than 10 times	6%

How long do you usually have to wait to get an appointment with your GP?

Same day	28%
Following day	15%
2 days	15%
3-5 days	17%
More than 5 days	21%
Don't know	4%

In the last year, how many times have you consulted or spoken to a pharmacist about yourself?

Not at all	17%
Once or twice	57%
3-5 times	23%
6-10 times	2%

Do you use the same pharmacist regularly?

Yes	70%
No	28%
Don't know	2%

Are you on any regular medication prescribed by a doctor?

Yes	60%
No	40%

Do you currently pay for your prescriptions?

Yes	38%
No	57%
Don't know	4%

During the past 4 weeks have you bought any medicine?

Yes	36%
No	64%

Addendum

Since the completion of this project, a study by Terry Porteous and colleagues at the University of Aberdeen has been published in the British Journal of General Practice.^{*} It describes a discrete choice experiment aimed at determining the relative importance of factors that influence decision making in the management of minor illness, and how people trade between these factors.

The symptom scenario presented to respondents was:

“You have a headache and a fever, your bones are aching and your nose feels slightly blocked. You are still able to do all the things you usually do but are more tired than usual. The symptoms started to appear 4 days ago, and were slightly worse when you woke up this morning.”

Three attributes were included in the DCE:

- Type of management, with the following levels:
 - GP
 - practice nurse
 - pharmacy
 - complementary
 - NHS 24
 - self-care, and
 - do nothing’
- Availability, with the following levels:
 - 0 hrs
 - 1 hr
 - 5 hrs
 - 1 day
 - 2 days
 - 5 days
- Cost, with the following levels:
 - £2
 - £5
 - £7
 - £15

A postal questionnaire that included the DCE was distributed to 652 individuals across Scotland. A 51% valid (corrected) response rate (293) was achieved, and a conditional logic regression was performed to analyse the data.

The results suggested that people preferred to self-manage the clinical scenario described and were willing to pay almost £23 to do so. Community pharmacy was the preferred source of advice, but patients preferred less waiting time and paying less when managing symptoms.

^{*} Porteous T, Ryan M, Bond CM, Hannaford P. Preferences for self-care or professional advice for minor illness: a discrete choice experiment. Br J Gen Pract 2007; 25: 911-7.